

Water Walkers Streamflow Monitoring, Inc.

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STATION DESCRIPTION

15087690 (USGS) Indian River near Sitka, Alaska [aka Upper Station]

LOCATION: Lat 57°04'01", long 135°17'42", in SW1/4 SE1/4sec. 30, T. 55 S., R. 64 E., Hydrologic Unit 19010203, in Tongass National Forest, Greater Sitka Borough, on Baranof Island, on right bank, 2 mi upstream from mouth, and 1.4 mi northeast of Sitka.

To Reach: From the intersection of Halibut Point Road and Sawmill Creek Road in Sitka, proceed southerly along Sawmill Creek Road. Prior to crossing Indian River, turn left onto a gravel road. Proceed down this road about a mile to the end and the trail head for upper Indian River. Hike up this trail along the right bank of Indian River about one mile (20 – 30 minutes) to gage site. The gage is located where the trail is next to the river and very large boulders and rock outcrops are evident in the river.

DRAINAGE AREA: 10.1 mi².

PERIOD OF RECORD: The US Geological Survey operated a streamgage at the present location August 1980 to September 1993. From May 1997 to March 2006, the USGS again operated a stream gage which was located at a site about 200 ft downstream at different datum. Gage was reestablished at original location by Alaska Dept. of Fish and Game, National Park Service, City and Borough of Sitka, and Water Walkers Stream flow Monitoring, May 2007 to present.

GAGE: Gage consists of an electronic water-stage recorder, a submersible pressure transducer, and a water temperature probe. Water stage is referenced to RP-100 and a tape down to the water surface.

CONTROL: The low water control is a gravel riffle about 50 ft downstream from gage and will be subject to shifting. Medium and high flows are channel control and a shifting streambed. Banks are generally steep, brush covered, and fairly stable. Streambed consists of gravel and cobble with scattered boulders and is continually scouring and filling.

DISCHARGE MEASUREMENTS: Low and medium flows can be measured by wading in the vicinity of the gage, normally just below the gage. There are no provisions for measuring high flows at this site currently other than by indirect methods or a boat or raft. During the period August 1980 to September 1993, USGS utilized a cableway at this site and verified the upper end of the stage-discharge rating. Although datum seems to have been lost through the years, the shape of the upper end of the rating is assumed to be similar and can be compared hydrologically with a second stream gage located about 1.5 mi downstream.

WATER FLOWS: The stage-discharge relation may be affected by backwater from ice during extremely cold periods but generally remains open during the winter months.

EXTREMES: Maximum discharge recorded 5,710ft³/s September 4, 1990; minimum discharge 8.2ft³/s January 19, 1989.

REGULATION AND DIVERSION: None.

ACCURACY: Accuracy of records should be good except for some winter periods with ice effect that are estimated and may be poor.

COOPERATION: Gage is operated in cooperation of the National Park Service, Alaska Department of Fish and Game, City and Borough of Sitka, and Water Walkers Streamflow Monitoring.

REFERENCE MARKS: RMs 1-3 abandoned.

RM-4 destroyed.

RM-5 abandoned.

RM-6 – 9 at site 200 ft downstream.

RM-10 Base - Top of a ½" bolt with nut and washer set in top of the downstream end of a large rock outcrop at upper end of gage pool and about 5 ft stream ward of right bank.

Elevation: 10.048 ft gage datum (levels of 6/24/10)

RM-11 destroyed.

RM-12 destroyed.

RM-13 Top of ¼" x 2" lag bolt set in top of the base of a red alder tree on right bank even with downstream end of rock outcrop.

Elevation: 14.648 ft gage datum (levels of 6/24/10)

RP-100 Top of the head of a ¼" x 2.5" lag bolt set in the upstream side of a 12" red alder tree growing over the right bank about 10 ft downstream from large rock outcrop.

Elevation: 10.650 ft gage datum (levels of 6/24/10)

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STATION DESCRIPTION

15087700 (USGS) Indian River at Sitka, AK [aka Lower Station]

Location: Latitude 57° 03' 12" Longitude 135° 18' 52" in NE ¼, SW ¼, sec. 36 (Sitka A-4 quad), Hydrologic Unit 19010203, in Greater Sitka Borough, on Baranof Island, in Tongass National Forest, on right bank 500 ft upstream from Sawmill Creek Road, 600ft. downstream from Sheldon Jackson College Diversion, and 0.6 miles above the mouth.

Drainage area: 12.0 mi².

Period of Record: Daily discharge station was operated by the United States Geological Survey from September 22, 1998 to September 30, 2003. On May 15, 2001, a Hydrolab with a conductivity and temperature probe was installed and values recorded by the Sutron at a 15 minute interval. Hydrolab was discontinued for the 2003 water year. Gage was reactivated on June 14, 2007, and is operated currently.

Gage: Gage consists of an electronic water-stage recorder, a submersible pressure transducer, and a water temperature probe. Water stage is referenced to RP-1 and RP-2, and a tape down to the water surface.

Control: The low and medium flow control is a boulder and gravel riffle 70ft. downstream from gage. The control should be fairly stable except for some shifting as sediment is transported through gage reach at medium and high flows.

Discharge Measurements: At all except high flows, measurements are made by wading in the vicinity of the control. High water is measured from footbridge 300ft below the gage.

Reference Marks:

RM-1 – Top of bolt for upper strap 18ft streamward from gage.
ELEV: 24.972 (5/27/09)

RM-2 – Not useable, no way to get level rod on bolt.

RM-3 – Top of brass cap set in top of rock outcrop 20ft downstream of gage.
ELEV: 23.232 (base 6/23/10)

RM-4- Top of bolt head anchored in rock 3 inches above previous orifice line strap.
ELEV: 25.529 (6/23/10)

RP-1 – Upper bolt set into large rock on right bank at upper end of gage pool.
ELEV: 24.778 (6/23/10)

RP-2 – Lower bolt set into large rock on right bank at upper end of gage pool.
ELEV: 22.409 (6/23/10)

Winter Flows: The stage may be affected by ice during extremely cold spells but generally remains open during the winter periods.

Extremes: Maximum discharge 5,740ft³/s October 19, 1998, gage height was 26.84 ft.

Regulation and Diversion: Water is diverted upstream of gage for use at a fish hatchery and non operating penstock.

Accuracy: Accuracy of records should be good except for some winter periods with ice effect that may be poor.

Cooperation: Station is operated with cooperation with National Park Service, City and Borough of Sitka, Alaska Department of Fish and Game, and published by Water Walkers Streamflow Monitoring, INC.